

Appl. No.: 10/767,552
Arndt. dated 08/15/2005
Reply to Office action of 05/13/2005

REMARKS/ARGUMENTS

Applicants appreciate the thorough review of the present application as evidenced by the final Official Action, as well as the interview with the Examiner on July 8, 2005 regarding the Official Action.

Claims 1-9 and 17-25 are allowed, while Claim 15 is objected to but would be allowable if rewritten to include all of the limitations of the base claim and any intervening claims. Claims 10, 11, 14, and 16 are rejected under 35 U.S.C. § 102(b) as being anticipated by both U.S. Patent No. 4,543,725 to Golinelli et al. ("Golinelli") and U.S. Patent No. 5,335,422 to Ferguson ("Ferguson"). Claims 26, 27, 31-34, and 38 are rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 4,240,206 to Baresh et al. ("Baresh"). In addition, Claim 12 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Golinelli in view of U.S. Patent No. 6,457,338 to Frenken ("Frenken"). Claims 28, 29, and 35 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Baresh in view of U.S. Patent No. 4,807,479 to Sako et al. ("Sako"). Claims 30 and 36 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Baresh in view of JP 362228302 to Keyakida ("Keyakida"), and Claim 39 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Baresh.

Independent Claims 10, 26, and 32 have been amended to further patentably distinguish the claims from the cited references. Claim 38 has been cancelled in light of the amendment to independent Claim 26. In view of the claim amendments and subsequent remarks which do not raise new issues, Applicants respectfully request reconsideration and allowance of the claims.

In the final Official Action regarding independent Claims 10 and 26, the Examiner finds that the aperture does not define a cross-sectional reference shape. The Examiner states in the Response to Arguments that, "[t]here is no limitation that states that the aperture itself takes or has a generally circular cross-sectional shape, only that the aperture defines a generally cross-sectional shape." In addition, the Examiner indicated with respect to independent Claim 10 that "[i]f the applicant's intent via the argument is to state that the template members are configured to contact, or substantially contact, a majority of the outer circumference, this limitation is not disclosed in the claims."

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Accordingly, independent Claim 10 now recites that the first and second rigid template members cooperably define an aperture having a generally circular cross-sectional reference shape, and that the first and second template members are configured to receive and substantially contact a majority of an outer circumference of the tubular member in the aperture. Similarly, independent Claim 26 has been amended to recite that the first and second template members cooperably defining an aperture generally having a cross-sectional reference shape of the tubular member and that a plurality of measurement devices are configured to contact a majority of an outer circumference of the tubular member when the aperture is adjusted to the closed position. Independent method Claim 32 has been amended to recited that a plurality of measurement devices disposed on the template members are positioned in contact with a majority of an outer circumference of the tubular member.

With respect to independent Claim 10, FIG. 1 of the present application demonstrates that the template members 20, 30 define an aperture 40 having a generally circular cross-sectional reference shape, although the reference shape could be various configurations. In addition, FIG. 1 shows that the plates 24, 26, 34, and 36 of each template member 20, 30 are configured to contact a majority of an outer circumference of a tubular member 14. Providing contact about the circumference of the tubular member facilitates measurement with a measurement device that is indicative of the cross-sectional size of the tubular member.

Furthermore, FIG. 5 illustrates another embodiment of the present application. A plurality of measurement devices 70 are arranged about the circumference of the aperture 40. The measurement devices are configured to contact a substantial majority of the outer circumference of the tubular member when positioned within the aperture. Each sensor is configured to provide an output that is characteristic of a contact force between the measurement device and the tubular member.

None of the cited references, taken alone or in combination, teach or suggest first and second template members or a plurality of measurement devices that are configured to contact a majority of an outer circumference of the tubular member. The Examiner rejects independent Claim 10 over either Ferguson or Golinelli. However, the idler wheels 28, 38 of Ferguson only contact three distinct locations on the tube to facilitate movement of the tube such that the LVDT

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is capable of measuring the diameter along the length of the tube. Similarly, Golinelli only discloses that a pair of feelers 12, 14 contacts the part 17 being checked by the ring gauge. Thus, the feelers are not template members that are in substantial contact with a majority of an outer circumference of the part when positioned within the annular element 37 and, rather, contact only enough of the part being checked to cause rotation of the measuring arms 4, 5. Moreover, the Examiner rejects independent Claims 26 and 32 over Baresh. In contrast, however, Baresh only discloses probes 48a, 48b and anvils 42a, 42b that contact the tube at four locations via wheels 54a, 54b and 46a, 46b, respectively, and are spaced approximately 90 degrees apart. As such, Baresh does not teach or suggest a plurality of measurement devices that are configured to contact a majority of an outer circumference of a tube being inspected.

With respect to the remaining cited references, Fuchs discloses measuring surfaces Mf10, Mf11 that also do not substantially contact a majority of an outer circumference of a unit, as the measuring jaws Mb10, Mb11 include lateral recesses R that are at least a substantially similar radial length as that of the measuring surfaces defined in the gauge ring. Similarly, FIG. 3 of Fuchs shows three measuring surfaces Mf20, Mf21, and Mf22 that also are incapable of extending about a majority of the outer circumference of a unit being inspected.

Even if Fuchs was combined with Golinelli or Ferguson, the combination would not teach or suggest the apparatus recited in independent Claim 10 of the present application. In particular, Fuchs does not disclose that the measurement surfaces substantially contact a majority of an outer circumference of a unit being inspected such that the combination with Golinelli or Ferguson would also not disclose first and second template members configured to substantially contact a majority of an outer circumference of a tubular member. Similarly, combining Fuchs with Baresh would not teach or suggest that a plurality of measurement devices are configured to contact a majority of an outer circumference of a tubular member, as recited by independent Claims 26 and 32 of the present application, since the measurement surfaces of Fuchs do not contact a majority of an outer circumference of a unit being inspected.

Although Sako arguably shows holders 4, 5 that support the outer surface of conduit 1, the biomorph sensor 3 is being used to detect the pressure of fluid flowing through the conduit. As such, Applicants submit that Sako cannot be properly combined with any of the cited

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references employed to determine measurements indicative of the outer surface of a tubular member. Not only is Sako nonanalogous art, but there is simply no teaching or suggestion to combine Sako with Golinelli, Ferguson, or Baresh that are each being employed to measure external dimensions of the part. Sako is directed to solving a completely different problem, namely, measuring pressure changes within a pipe.

With respect to Claim 10 of the present application, even if Sako is combined with Golinelli or Ferguson, Sako discloses that the holders 4, 5 are clamped down by cases 6, 7 with tightening devices 8. Therefore, combining Sako with either Golinelli or Ferguson would render Golinelli and Ferguson unsatisfactory for their intended purpose, i.e., detecting a gap between the ends of moveable arms or frame sections since there would be no gap to detect. Moreover, with respect to Claims 26 and 32, combining Sako with Baresh does not disclose that a plurality of transducers contact a majority of an outer circumference of a tube given that the sensor of Sako extends less than halfway about the circumference of the pipe. In addition, because Sako discloses clamping down the holders, the combination would render Baresh unsatisfactory for its intended purpose, i.e., measuring the ovality of a tube along the length of the tube as the hand held probe is advanced along the tube via rollers since the probe would be unmovable along the tube.

Keyakida discloses a method for machining an external surface of a tube. A thickness sensor, an outer diameter sensor, and a mill scale sensor are built into a sensor box 8 that is in contact with the tube 5 for measuring a wall thickness, an outer diameter, and a bend of the tube. In addition, trailing rollers 65, 68 are in rolling contact with the external surface of the tube. However, as shown in FIG. 2 of Keyakida, the sensors and rollers also do not contact a majority of an outer circumference of the tube.

As such, the rejections of independent Claims 10, 26, and 32 under 35 U.S.C. § 102(b) over the cited references are overcome, and it is submitted that those claims that depend from Claims 10, 26, and 32 are allowable for at least those reasons discussed above.

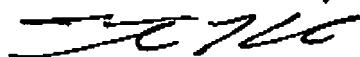
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CONCLUSION

Applicants appreciate the Examiner's review of the forgoing remarks which do not raise new issues but which, instead, traverse the current rejections. In view of the amendments and remarks presented above, Applicants submit that the present application is in condition for allowance. As such, the issuance of a Notice of Allowance is therefore respectfully requested. In order to expedite the examination of the present application, the Examiner is encouraged to contact Applicants' undersigned attorney in order to resolve any remaining issues.

It is not believed that extensions of time or fees for net addition of claims are required, beyond those that may otherwise be provided for in documents accompanying this paper. However, in the event that additional extensions of time are necessary to allow consideration of this paper, such extensions are hereby petitioned under 37 CFR § 1.136(a), and any fee required therefore (including fees for net addition of claims) is hereby authorized to be charged to Deposit Account No. 16-0605.

Respectfully submitted,

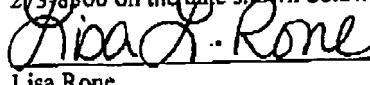


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8/15/05
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